UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration
Bureau of Entomology and Plant Quarantine
233 Forestry Bldg., Colo. A & M
Fort Collins, Colorado
October 2, 1951

LOOPER OUTBREAK LINCOLN NATIONAL FOREST
September, 1951

Appraisal Survey

A ground survey was completed September 9, 1951 on an infestation of a species of Geometridae, probably *Galenaria sp.*, which is located in the Penasco Ranger District of the Sacramento Division on the Lincoln National Forest.

The looper larvae have seriously defoliated reproduction and virgin stands of Douglas-fir and white fir. In areas of heavy infestation limber pine has suffered defoliation to some degree.

The infestation encompasses an area of approximately 7,100 acres, which extends in a northwesterly and northerly direction from the New Carrissa Fire Lookout. The area is about 2 miles in width and 7 miles in length. Of the 7,100 acres, about 1,500 acres are heavily infested, 1,000 acres are moderately infested, and 4,000 acres lightly infested.

Strip lines were run throughout the area, going in a cardinal direction or following Forest Service trails and drainages. The total miles of strip line made were 43¼ miles. Every 5 chains or whenever a difference in the degree of defoliation was noted, 1 square foot of duff and soil was sifted in order to make a count of the pupae. The maximum depth at which pupae are found is about 1 inch in the mineral soil.

The areas of differing intensity as delineated on the map were determined by the pupal counts and by the degree of defoliation. A light infestation is evidenced by a small amount of feeding on the terminal needles and a count of less than 10 pupae to the square foot. When the feeding takes place over more of the foliage on the larger diameter trees and the reproduction suffers 50 to 75 percent defoliation, the infestation is classed as moderate. In this case there is a count of 10 to 20 pupae. A moderate to heavy infestation varies from complete defoliation of reproduction and intensive feeding on larger diameter trees to complete or almost complete defoliation of all trees. The pupal count is over 20 to the square foot.

There is an extensive stand of fir type immediately northwest of the infested area which lies on both sides of Agua Chiquita Canyon. It appears the looper is moving more rapidly in that direction. The fir type is

present along Aqua Chiquita Canyon toward the northeast, but gives way to ponderosa type about 2 miles above the infestation boundary. The elevation becomes less as you move to the south and east, and, therefore, the fir type gives way to the ponderosa type almost immediately.

The area is readily accessible by roads and includes National, State, and private land. Some of the National and State land is leased for grazing privileges. There are no farm buildings located in the infested area.

It might be well to keep in mind that the present boundaries may have to be extended somewhat after the adult flight of next spring.

Submitted by,

Cyrus J. Hay
Supervisory Control Aid

cc: Regional Forester (3)
Beal (2)
Hay